WO 03/080652

PCT/KR03/00602

[Sequence Listing]

<110>	Korea Advanced Institute of Science and Technology
<120>	ANTIMICROBIAL PEPTIDE, ITS ANALOGS AND ANTIMICROBIAL COMPOSITION COMPRISING THEM
<160>	72
<170>	Kopatentin 1.71
<210> <211> <212> <213>	1 21 PRT Artificial Sequence
<220> <223>	antimicrobial peptide
<400> Arg Val	1 Val Arg Gln Trp Pro Ile Gly Arg Val Val Arg Arg Val Val 5 10 15
Arg Arg	Val Val Arg 20
<210>	2
<211>	21
<212>	PRT
<213>	Artificial Sequence
<220>	
<223>	antimicrobial peptide
<400>	2
Lys Val 1	Val Lys Gln Trp Pro Ile Gly Lys Val Val Lys Lys Val Val 5 10 15
Lys Lys	Val Val Lys 20
<210>	3
<211>	21
<212>	PRT
<213>	Artificial Sequence
<220>	
<223>	antimicrobial pept i de

```
<400>
Arg Leu Leu Arg Gln Trp Pro Ile Gly Arg Leu Leu Arg Arg Leu Leu
                                       10
Arg Arg Leu Leu Arg
              20
<210>
         4
<211>
         21
<212>
         PRT
<213>
          Artificial Sequence
<220>
 <223>
          antimicrobial peptide
 <400>
Lys Leu Leu Lys Gln Trp Pro Ile Gly Lys Leu Leu Lys Lys Leu Leu
                                        10
                   5
  1
Lys Lys Leu Leu Lys
              20
          5
 <210>
          21
 <211>
 <212>
          PRT
          Artificial Sequence
 <213>
 <220>
          antimicrobial peptide
 <223>
 <400>
 Arg Val Leu Arg Gln Trp Pro Ile Gly Arg Val Leu Arg Arg Val Leu
                                        10 ·
 Arg Arg Val Leu Arg
               20
 <210>
          6
          21
 <211>
 <212>
          PRT
 <213>
           Artificial Sequence
 <220>
           antimicrobial peptide
 <223>
```

<400>

. . .

```
Lys Val Leu Lys Gin Trp Pro Ile Gly Lys Val Leu Lys Lys Val Leu
Lys Lys Val Leu Lys
              20
<210>
<211>
          21
<212> -
          PRT
          Artificial Sequence
<213>
<220>
          antimicrobial peptide
<223>
<400>
Arg Leu Val Arg Gln Trp Pro Ile Gly Arg Leu Val Arg Arg Leu Val
                                       10
 1
Arg Arg Leu Val Arg
<210>
 <211>
          21
 <212>
          PRT
 <213>
           Artificial Sequence
 <220>
           antimicrobial peptide
 <223>
 <400>
 Lys Leu Val Lys Gin Trp Pro ile Gly Lys Leu Val Lys Lys Leu Val
 Lys Lys Leu Val Lys
 <210>
           21
 <211>
 <212>
           PRT
           Artificial Sequence
 <213>
 <220>
           antimicrobial peptide
 <223>
 <400>
 Arg Val Val Lys Gin Trp Pro Ile Gly Arg Val Val Lys Arg Val Val
```

1

```
Lys Arg Val Val Lys
          10
<210>
<211>
          21
          PRT
<212>
<213>
          Artificial Sequence
<220>
          antimicrobial pept ide
<223>
          10
<400>
Lys Val Val Arg Gln Trp Pro lle Gly Lys Val Val Arg Lys Val Val
                                        10
                   ·5
 1
 Arg Lys Val Val Arg
              20
          11
 <210>
 <211>
          21
 <212>
          PRT
           Artificial Sequence
 <213>
 <220>
           antimicrobial peptide
 <223>
 <400>
 Arg Leu Leu Lys Gln Trp Pro Ile Gly Arg Leu Leu Lys Arg Leu Leu
                                         10
                    5
   1
 Lys Arg Leu Leu Lys
               20
           12
  <210>
  <211>
           21
           PRT
  <212>
            Artificial Sequence
  <213>
  <220>
            antimicrobial pept ide
  <223>
            12
  <400>
  Lys Leu Leu Arg Gln Trp Pro Ile Gly Lys Leu Leu Arg Lys Leu Leu
                                         10
```

Arg Lys Leu Leu Arg

20

```
<210>
         13
<211>
         21
         PRT
<212>
         Artificial Sequence
<213>
<220>
<223>
         antimicrobial pept ide
<400>
Arg Val Leu Lys Gln Trp Pro Ile Gly Arg Val Leu Lys Arg Val Leu
            • 5
                                    10
Lys Arg Val Leu Lys
             20
```

<210> 14
<211> 21
<212> PRT
<213> Artificial Sequence
<220>
<223> antimicrobial peptide

<400> 14
Lys Val Leu Arg Gin Trp Pro Ile Gly Lys Val Leu Arg Lys Val Leu
1 5 10 15

Arg Lys Val Leu Arg 20

<210> 15
<211> 21
<212> PRT
<213> Artificial Sequence
<220>
<223> antimicrobial peptide

<400> 15
Arg Leu Val Lys Gln Trp Pro Ile Gly Arg Leu Val Lys Arg Leu Val
1 5 10 15

Lys Arg Leu Val Lys 20

```
16
<210>
         21
<211>
         PRT
<212>
         Artificial Sequence
<213>
<220>
<223>
          antimicrobial peptide
          16
<400>
Lys Leu Val Arg Gln Trp Pro Ile Gly Lys Leu Val Arg Lys Leu Val
                                       10
                   5
Arg Lys Leu Val Arg
          17
 <210>
          21
 <211>
 <212>
          PRT
          Artificial Sequence
 <213>
 <220>
           antimicrobial peptide
 <223>
 <400>
           17 .
 Lys Leu Val Arg Gin Phe Pro Val Gly Lys Leu Val Arg Lys Leu Val
                                        10
   1
 Arg Lys Leu Val Arg
               20
           18
 <210>
           21
  <211>
  <212>
           PRT
            Artificial Sequence
  <213>
  <220>
            antimicrobial pept i de
  <223>
            18
  <400>
  Arg Val Val Arg Asn Trp Pro Ile Gly Arg Val Val Arg Arg Val Val
                                                               15
                                         10
  Arg Arg Val Val Arg
```

<210> 19

<211>

<212>

21

PRT

```
<211>
         21
<212>
         PRT
         Artificial Sequence
<213>
<220>
         antimicrobial peptide
<223>
<400>
         19
Lys Val Val Lys Asn Trp Pro Ile Gly Lys Val Val Lys Lys Val Val
         5
Lys Lys Val Val Lys
             20
<210>
         20
<211>
         21
<212>
         PRT
         Artificial Sequence
<213>
<220>
<223>
         antimicrobial peptide
<400>
       - 20
Arg Leu Leu Arg Asn Trp Pro Ile Gly Arg Leu Leu Arg Arg Leu Leu
                                     10
 1 .
Arg Arg Leu Leu Arg
<210>
         21
<211>
<212>
         PRT
          Artificial Sequence
<213>
<220>
 <223>
          antimicrobial peptide
<400>
Lys Leu Leu Lys Asn Trp Pro Ile Gly Lys Leu Leu Lys Lys Leu Leu
                                     10
  1
            5
 Lys Lys Leu Leu Lys
              20
 <210>
          22
```

```
Artificial Sequence
<213>
<220>
         antimicrobial peptide
<223>
<400>
         22
Arg Val Leu Arg Asn Trp Pro Ile Gly Arg Val Leu Arg Arg Val Leu
Arg Arg Val Leu Arg
              20
          23
<210>
<211>
          21
<212>
          PRT
<213>
          Artificial Sequence
<220>
          antimicrobial pept i de
<223>
          23
 <400>
Lys Val Leu Lys Asn Trp Pro Ile Gly Lys Val Leu Lys Lys Val Leu
                                       10
 Lys Lys Val Leu Lys
           24
 <210>
 <211>
           21
 <212>
           Artificial Sequence
 <213>
 <220>
 <223>
           antimicrobial peptide
 <400>
 Arg Leu Val Arg Asn Trp Pro Ile Gly Arg Leu Val Arg Arg Leu Val
                                         10
 Arg Arg Leu Val Arg
               20
 <210>
           25
           21
  <211>
```

<212>

<213>

PRT

Artificial Sequence

数字形

```
<220>
         antimicrobial peptide
<223>
<400>
         25
Lys Leu Val Lys Asn Trp Pro Ile Gly Lys Leu Val Lys Lys Leu Val
                                      10
1
                  5
Lys Lys Leu Val Lys
<210>
          26
<211>
          21
          PRT
<212>
          Artificial Sequence
<213>
<220>
          antimicrobial peptide
<223>
          26
<400>
Arg Val Val Lys Asn Trp Pro Ile Gly Arg Val Val Lys Arg Val Val
                   5
Lys Arg Val Val Lys
              20
 <210>
          27
          21
 <211>
          PRT
 <212>
 <213>
          Artificial Sequence
 <220>
          antimicrobial pept ide
 <223>
 <400> 27
 Lys Val Val Arg Asn Trp Pro Ile Gly Lys Val Val Arg Lys Val Val
                                        10
  1
 Arg Lys Val Val Arg
 <210>
          28
           21
 <211>
 <212>
           PRT
           Artificial Sequence
 <213>
 <220>
```

<223>

antimicrobial peptide

```
<400> 28
Arg Leu Leu Lys Asn Trp Pro Ile Gly Arg Leu Leu Lys Arg Leu Leu
                                      10
Lys Arg Leu Leu Lys
             20
<210>
          29
          21
<211>
          PRT
<212>
          Artificial Sequence
<213>
<220>
          antimicrobial peptide
<223>
          29
 <400>
Lys Leu Leu Arg Asn Trp Pro Ile Gly Lys Leu Leu Arg Lys Leu Leu
 Arg Lys Leu Leu Arg
               20
 <210>
           30
           21
 <211>
 <212>
           PRT
           Artificial Sequence
 <213>
 <220>
           antimicrobial peptide
 <223>
  <400>
  Arg Val Leu Lys Asn Trp Pro Ile Gly Arg Val Leu Lys Arg Val Leu
                                        10
                    5
  Lys Arg Val Leu Lys
                20
           31
  <210>
           21
  <211>
            PRT
  <212>
            Artificial Sequence
  <213>
  <220>
            antimicrobial peptide
  <223>
```

```
<400>
Lys Val Leu Arg Asn Trp Pro Ile Gly Lys Val Leu Arg Lys Val Leu
 1
Arg Lys Val Leu Arg
             20
<210>
         32
<211>
         21
<212>
         PRT
          Artificial Sequence
<213>
<220>
          antimicrobial peptide
<223>
<400>
          32
Arg Leu Val Lys Asn Trp Pro Ile Gly Arg Leu Val Lys Arg Leu Val
Lys Arg Leu Val Lys
              20
          33
<210>
          21
<211>
<212>
          PRT
<213>
          Artificial Sequence
 <220>
          antimicrobial peptide
 <223>
 <400>
Lys Leu Val Arg Asn Trp Pro Ile Gly Lys Leu Val Arg Lys Leu Val
                   5
 Arg Lys Leu Val Arg
              20
 <210>
          34
 <211>
          21
 <212>
          PRT
           Artificial Sequence
 <213>
 <220>
           antimicrobial peptide
 <223>
 <400>
 Lys Leu Val Arg Asn Phe Pro Val Gly Lys Leu Val Arg Lys Leu Val
```

 $\left\langle \hat{\psi}_{i,k}\right\rangle$

10 15 1 Arg Lys Leu Val Arg <210> 35 <211> 21 PRT <212> Artificial Sequence <213> <220> antimicrobial peptide <223> <400> 35 Arg Val Val Arg Arg Val Val Arg Arg Val Val Arg Gln Trp Pro Ile 5 Gly Arg Val Val Arg 20 <210> 36 21 <211> PRT <212> Artificial Sequence <213> <220> antimicrobial peptide <223> 36 <400> Lys Val Val Lys Lys Val Val Lys Val Val Lys Gin Trp Pro Ile Gly Lys Val Val Lys 37 <210> <211> 21 PRT <212> Artificial Sequence <213> <220> <223> antimicrobial peptide <400> 37 Arg Leu Leu Arg Arg Leu Leu Arg Arg Leu Leu Arg Gin Trp Pro Ile Gly Arg Leu Leu Arg 38 <210> 21 . <211> <212> **PRT** <213> Artificial Sequence <220> antimicrobial peptide <223> <400> 38 Lys Leu Leu Lys Lys Leu Leu Lys Lys Leu Leu Lys Gin Trp Pro Ile 5 Gly Lys Leu Leu Lys 20 39 <210> <211> 21 PRT <212> Artificial Sequence <213> <220> antimicrobial peptide <223> <400> 39 Arg Val Leu Arg Arg Val Leu Arg Val Leu Arg Gin Trp Pro 1le Gly Arg Val Leu Arg 20 40 <210> 21 <211> <212> PRT <213> Artificial Sequence <220> antimicrobial peptide <223> . 40 <400> Lys Val Leu Lys Lys Val Leu Lys Val Leu Lys Gln Trp Pro lle

Gly Lys Val Leu Lys 20

1

```
<210>
         41
<211>
         21
<212>
         PRT
         Artificial Sequence
<213>
<220>
         antimicrobial peptide
<223>
<400>
Arg Leu Val Arg Arg Leu Val Arg Leu Val Arg Gln Trp Pro Ile
                                     10
                  5
Gly Arg Leu Val Arg
             20
         42
<210>
         21
<211>
<212>
         PRT
          Artificial Sequence
<213>
<220>
          antimicrobial peptide
<223>
          42
 <400>
Lys Leu Val Lys Leu Val Lys Leu Val Lys Gln Trp Pro Ile
 1
 Gly Lys Leu Val Lys
              20
 <210>
          43
 <211>
          21
          PRT
 <212>
          Artificial Sequence
 <213>
 <220>
          antimicrobial peptide
 <223>
          43
 <400>
 Arg Val Val Lys Arg Val Val Lys Arg Val Val Lys Gln Trp Pro 1le
 Gly Arg Val Val Lys
```

```
<210>
         44
<211>
         21
         PRT
<212>
          Artificial Sequence
<213>
<220>
          antimicrobial peptide
<223>
<400>
Lys Val Val Arg Lys Val Val Arg Lys Val Val Arg Gin Trp Pro Ile
 1
Gly Lys Val Val Arg
              .20
<210>
          45
<211>
          21
          PRT
<212>
          Artificial Sequence
<213>
<220>
          antimicrobial peptide
<223>
<400>
Arg Leu Leu Lys Arg Leu Leu Lys Arg Leu Leu Lys Gln Trp Pro 1le
                                        10
 Gly Arg Leu Leu Lys
              20
 <210>
           46
 <211>
           21
 <212>
           PRT
 <213>
           Artificial Sequence
 <220>
           antimicrobial pept ide
 <223>
 <400>
           46
 Lys Leu Leu Arg Lys Leu Leu Arg Lys Leu Leu Arg Gin Trp Pro Ile
                                                              15
                    5
 Gly Lys Leu Leu Arg
               20
 <210>
           47
```

21

<211>

```
<212>
         PRT
          Artificial Sequence
<213>
<220>
          antimicrobial peptide
<223>
<400>
Arg Val Leu Lys Arg Val Leu Lys Arg Val Leu Lys Gin Trp Pro Ile
Gly Arg Val Leu Lys
          48
<210>
          21
<211>
<212>
          PRT
           Artificial Sequence
<213>
<220>
           antimicrobial peptide
 <223>
 <400>
           48
Lys Val Leu Arg Lys Val Leu Arg Lys Val Leu Arg Gin Trp Pro Ile
                                                               - 15
 Gly Lys Val Leu Arg
               20
 <210>
           49
 <211>
           21
 <212>
           PRT
 <213>
           Artificial Sequence
 <220>
           antimicrobial peptide
 <223>
           49
 <400>
 Arg Leu Val Lys Arg Leu Val Lys Arg Leu Val Lys Gln Trp Pro Ile
                                                                 15
 Gly Arg Leu Val Lys
                20
  <210>
            50
            21
  <211>
  <212>
            PRT
            Artificial Sequence
  <213>
  <220>
  <223>
            antimicrobial peptide
```

٠.,

```
<400>
Lys Leu Val Arg Lys Leu Val Arg Lys Leu Val Arg Gln Trp Pro Ile
Gly Lys Leu Val Arg
              20
          51
<210>
          21
<211>
<212>
          PRT
<213>
          Artificial Sequence
<220>
<223>
          antimicrobial peptide
<400>
          51
Lys Leu Val Arg Lys Leu Val Arg Lys Leu Val Arg Gin Phe Pro Val
                                                                 15
Gly Lys Leu Val Arg
              20
<210>
           52
          21
<211>
<212>
          PRT-
<213>
           Artificial Sequence
<220>
<223>
           antimicrobial peptide
<400>
Arg Val Val Arg Arg Val Val Arg Arg Val Val Arg Asn Trp Pro Ile
                    5
Gly Arg Val Val Arg
               20
           53
<210>
<211>
<212>
           PRT
<213>
           Artificial Sequence
<220>
           antimicrobial peptide
<223>
<400>
Lys Val Val Lys Lys Val Val Lys Val Val Lys Asn Trp Pro Ile
```

```
Gly Lys Val Val Lys
          54
<210>
          21
<211>
<212>
          PRT
<213>
          Artificial Sequence
<220>
          antimicrobial peptide
<223>
<400>
          54
Arg Leu Leu Arg Arg Leu Leu Arg Arg Leu Leu Arg Asn Trp Pro Ile
                                          10
Gly Arg Leu Leu Arg
              20
<210>
           55
          21
<211>
          PRT
<212>
           Artificial Sequence
<213>
<220>
           antimicrobial peptide
<223>
<400>
Lys Leu Leu Lys Lys Leu Leu Lys Lys Leu Leu Lys Asn Trp Pro Ile
                                                                 15
                     5
Gly Lys Leu Leu Lys
               20
           56
 <210>
 <211>
           21
           PRT
 <212>
           Artificial Sequence
 <213>
 <220>
           antimicrobial peptide
 <223>
 <400>
            56
 Arg Val Leu Arg Arg Val Leu Arg Arg Val Leu Arg Asn Trp Pro Ile
                                                                  15
 Gly Arg Val Leu Arg
                20
 <210>
            57
 <211>
            21
```

```
<212>
           PRT
<213>
           Artificial Sequence
<220>
<223>
           antimicrobial peptide
<400>
           57
Lys Val Leu Lys Lys Val Leu Lys Lys Val Leu Lys Asn Trp Pro ile
                                                                  15
Gly Lys Val Leu Lys
               20
<210>
           58
<211>
           21
<212>
           PRT
<213>
           Artificial Sequence
<220>
<223>
           antimicrobial peptide
<400>
Arg Leu Val Arg Arg Leu Val Arg Arg Leu Val Arg Asn Trp Pro IIe
                                                                  15
Gly Arg Leu Val Arg
               20
<210>
           59
<211>
          21
<212>
           PRT
<213>
           Artificial Sequence
<220>
<223>
           antimicrobial peptide
<400>
           59
Lys Leu Val Lys Lys Leu Val Lys Leu Val Lys Asn Trp Pro Ile
                                          10
. 1
Gly Lys Leu Val Lys
               20
<210>
          60
<21i>
          21
<212>
          PRT
<213>
           Artificial Sequence
<220>
<223>
          antimicrobial peptide
```

 $\{\xi_i^{(i)}: \xi_i^{(i)}$

```
<400>
           60
Arg Val Val Lys Arg Val Val Lys Arg Val Val Lys Asn Trp Pro Ile
                                                                  15
Gly Arg Val Val Lys
               20
 <210>
           61
 <211>
           21
 <212>
           PRT
           Artificial Sequence
 <213>
 <220>
 <223>
           antimicrobial peptide
 <400>
 Lys Val Val Arg Lys Val Val Arg Lys Val Val Arg Asn Trp Pro Ile
                                                                   15
                      5
   1
 Gly Lys Val Val Arg
 <210>
            62
 <211>
           21
 <212>
            PRT
 <213>
            Artificial Sequence
 <220>
 <223>
            antimicrobial peptide
 <400>
            62
 Arg Leu Leu Lys Arg Leu Leu Lys Arg Leu Leu Lys Asn Trp Pro Ile
                                                                   15
                                            10
 Gly Arg Leu Leu Lys
                20
 <210>
            63
  <211>
            21
  <212>
            PRT
            Artificial Sequence
  <213>
  <220>
            antimicrobial peptide
  <223>
  <400>
            63
  Lys Leu Leu Arg Lys Leu Leu Arg Lys Leu Leu Arg Asn Trp Pro Ile
                                                                   15
                      5
 Gly Lys Leu Leu Arg
```

```
<210>
          64
          21
<211>
<212>
          PRT
          Artificial Sequence
<213>
<220>
          antimicrobial peptide
<223>
<400>
Arg Val Leu Lys Arg Val Leu Lys Arg Val Leu Lys Asn Trp Pro Ile
                                                                15
                                         10
                    5
Gly Arg Val Leu Lys
              20
<210>
          65
<211>
          21
<212>
          PRT
<213>
          Artificial Sequence
<220>
<223>
           antimicrobial peptide
<400>
           65
Lys Val Leu Arg Lys Val Leu Arg Lys Val Leu Arg Asn Trp Pro lle
                                                                 15
Gly Lys Val Leu Arg
               20
<210>
           66
<211>
           21
 <212>
           PRT
 <213>
           Artificial Sequence
 <220>
           antimicrobial peptide
 <223>
           66
 <400>
Arg Leu Val Lys Arg Leu Val Lys Arg Leu Val Lys Asn Trp Pro Ile
                                                                 15
 Gly Arg Leu Val Lys
               20
           67
 <210>
 <211>
           21
           PRT
 <212>
```

```
Artificial Sequence
<213>
<220>
          antimicrobial peptide
<223>
<400>
Lys Leu Val Arg Lys Leu Val Arg Lys Leu Val Arg Asn Trp Pro Ile
                                        10
                                                               15
 1
Gly Lys Leu Val Arg
          68
<210>
<211>
          21
<212>
          PRT
          Artificial Sequence
<213>
<220>
<223>
          antimicrobial peptide
<400>
Lys Leu Val Arg Lys Leu Val Arg Lys Leu Val Arg Asn Phe Pro Val
                                         10
                                                               15
Gly Lys Leu Val Arg
<210>
          69
<211>
          21
<212>
          PRT
<213>
          Artificial Sequence
<220>
<223>
          antimicrobial peptide
<220>
          MOD_RES
<221>
 <222>
           (21)
           AMIDATION,
 <223>
 <400>
           69
Lys Leu Val Arg Gln Trp Pro Ile Gly Lys Leu Val Arg Lys Leu Val
                                                                15
Arg Lys Leu Val Arg
               20
           70
 <210>
           21
 <211>
           PRT
 <212>
```

```
<213>
         Artificial Sequence
<220>
         antimicrobial peptide
<223>
<220>
<221>
         MOD_RES
<222>
         (21)
          AMIDATION,
<223>
<400>
Arg Leu Val Lys Asn Trp Pro lie Gly Arg Leu Val Lys Arg Leu Val
                                                              15
 1
Lys Arg Leu Val Lys
             20
          71
<210>
          21
<211>
<212>
          PRT
<213>
          Artificial Sequence
<220>
<223>
          antimicrobial peptide
<220>
          MOD_RES
<221>
<222>
          (21)
<223>
          AMIDATION,
<400>
Lys Val Leu Arg Lys Val Leu Arg Lys Val Leu Arg Gln Trp Pro Ile
                                                              15
Gly Lys Val Leu Arg
          72
 <210>
<211>
          21
 <212>
 <213>
          Artificial Sequence
 <220>
          antimicrobial peptide
 <223>
 <220>
 <221>
          MOD_RES
 <222>
           (21)
           AMIDATION,
 <223>
```

<400> 72
Arg Val Leu Lys Arg Val Leu Lys Arg Val Leu Lys Asn Trp Pro Ile
1 5 10 15

Gly Arg Val Leu Lys 20

This Page is Inserted by IFW Indexing and Scanning Operations and is not part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

BLACK BORDERS
☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
FADED TEXT OR DRAWING
BLURRED OR ILLEGIBLE TEXT OR DRAWING
☐ SKEWED/SLANTED IMAGES
☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
☐ GRAY SCALE DOCUMENTS
☐ LINES OR MARKS ON ORIGINAL DOCUMENT
REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
OTHER.

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.